

Claims

1. A method for analyzing a population of RNA comprising the steps of:
 - producing a population of cDNA from a population of RNA,
 - wherein said method employs a primer having a first portion which is complementary to a plurality of RNA molecules in said population,
 - and a second portion comprising a promoter sequence, wherein the first portion is 3' to said second portion;
 - synthesizing second strand cDNA complementary to said population of first strand cDNA by extending random oligomers, to form a population of double stranded cDNA;
 - creating a population of cRNA from said double stranded cDNA;
 - hybridizing the population of cRNA to an array; and
 - analyzing a resulting hybridization pattern.
2. The method of claim 1, wherein said population of RNA comprises poly(A⁺) RNA.
3. The method of claim 2, wherein said poly(A⁺) RNA comprises mRNA.

4. The method of claim 1, wherein said population of RNA comprises total RNA.
5. The method of claim 1, wherein said promoter sequence comprises a phage T3 promoter.
6. The method of claim 1, wherein said promoter sequence comprises a phage SP6 promoter.
7. The method of claim 1, wherein said promoter sequence comprises a phage T7 promoter.
8. The method of claim 1, wherein said random oligomers are of a uniform length.
9. The method of claim 1, wherein said random oligomers comprise hexamers.

10. The method of claim 1, wherein said random oligomers are between 6 and 15 nucleotides in length.
11. The method of claim 1, wherein said second strand cDNA is synthesized using the Klenow fragment of DNA polymerase I.
12. The method of claim 1, wherein said second strand cDNA is synthesized using T4 DNA polymerase.
13. The method of claim 1, wherein said second strand cDNA is synthesized using *E. coli* DNA polymerase I alone or in conjunction with a DNA ligase.
14. The method of claim 1, wherein said first portion of said primer comprises a poly deoxythymidylate (poly dT) sequence.
15. A method for analyzing a population of RNA comprising the steps of:
producing a population of cDNA from a population of RNA,
wherein said method employs a primer having a first portion comprising

oligo dT, and a second portion comprising a phage promoter sequence,
wherein the first portion is 3' to said second portion;

synthesizing second strand cDNA complementary to said
population of first strand cDNA by extending random oligomers, to
form a population of double stranded cDNA;

creating a population of cRNA from said double stranded
cDNA;

hybridizing the population of cRNA to an array; and
analyzing a resulting hybridization pattern.

16. The method of claim 1, wherein said population of cRNA is synthesized
using an RNA polymerase.

17. The method of claim 15, wherein said population of cRNA is
synthesized using an
RNA polymerase.

18. The method of claim 2, wherein said RNA is isolated from an eukaryotic
cell or tissue.

19. The method of claim 18, wherein said eukaryotic cell or tissue is mammalian.

20. The method of claim 19, wherein said mammalian cell or tissue is human.